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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,863	11/03/2003	Balaram Ghosh	C261 1030.1	9355

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EXAMINER	
FLOOD, MICHELE C	
ART UNIT	**PAPER NUMBER**
1654	

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/698,863	GHOSH ET AL.	
	Examiner	Art Unit	
	Michele C. Flood	1654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Although not rising to the level of uncertainty, Claim 1 is rendered not grammatically correct because an article does not precede the phrase "therapeutically effective dose of the Luteolin". Applicant may overcome the rejection by adding a before the phrase.

The metes and bounds of Claim 2 are rendered uncertain by the phrase "wherein the compound Luteolin shows no side effects" because it is unclear as to whether Applicant refers to "side effects" that are beneficial or adverse to the animals receiving the claim-designated compound.

Claim 4 recites the limitation "the development of asthmatic features" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation "the concentration of compound Luteolin" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 10 is rendered vague and indefinite by the phrase "wherein the concentration of compound Luteolin is ranging between 1 mg/kg body weights" because the claim as drafted to does not refer to a range, *per se*. For instance, the claim does

not recite the difference between the least and greatest values for the concentration of the claim-designated compound to which the invention is directed. The lack of clarity renders the claim ambiguous.

Claim 11 recites the limitation "the duration of administering Luteolin" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama et al. (N).

Applicant claims a method of preventing and/or treating asthma in animals including humans using natural compound luteolin, said method comprising administering therapeutically effective dose of the luteolin. Applicant further claims the method as claimed in claim 1, wherein the compound Luteolin is administered orally. Applicant further claims the method as claimed in claim 1, wherein the development of asthmatic features comprising Early Airway Response (EAR) and Late Airway Response (LAR) are prevented. Applicant further claims the method as claimed in claim 1, wherein the concentration of compound luteolin is ranging between 0.1 to 10

mg/kg body weights; and, wherein the concentration of compound luteolin is ranging between 1 mg/kg body weights.

Aoyama teaches a method of preventing and/or treating asthma in animals comprising orally administering an effective amount of an alcoholic extract obtained from the *Perilla* seed, which comprises luteolin. Aoyama teaches the reference extract as a histamine release inhibitor, which is extremely good in action of inhibiting the release of histamine or the development of asthmatic features comprising Early Airway Response (EAR). In [0027], Aoyama teaches administering 0.5-3000 mg/day of the reference extract or 0.3 to 15% weight percent or 0.01-10 weight percent to a patient in need thereof of treatment.

The reference anticipates the claimed subject matter.

Claims 1-3 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Peng et al. (U).

Applicant's invention of Claims 1 and 3 was set forth above. Applicant further claims the method as claimed in claim 1, wherein the compound luteolin shows no side effects. Applicant further claims the method as claimed in claim 1, wherein level of IFN-gamma increases to normal level. Applicant further claims the method as claimed in claim 1, wherein compound luteolin inhibits airway constriction; and, wherein compound luteolin inhibits airway hyperactivity.

Peng teaches a method of treating asthma comprising orally administering an effective amount of luteolin to animals. Peng teaches administration of luteolin showed

a marked antitussive effect due to a direct action of luteolin on the cough center in the brain stem and to desensitization of certain sensory sites on the trachea. Peng further teaches luteolin caused relaxation of tracheal smooth muscle following acetylcholine- or histamine-induced contractions both in an *in vitro* and *in vivo* system. Finally, Peng teaches oral administration of luteolin did not cause death in mice.

The reference anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-13 are rejected under 35 U.S.C. 102(b) as anticipated by Aoyama et al. (N) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Aoyama et al. (N) and Peng et al. (U) in view of Nagai (V), Park et al. (W) and Kimata et al. (X).

Applicant's invention of Claims 1-4, 9, 0 and 12-13 was set forth above. Applicant claims a method as claimed in claim 1, wherein level of IFN-gamma increases to normal level; wherein level of IL-5 decreases to normal level; wherein level of IL-4 decreases to normal level; wherein level of IgE decreases to normal level; and, wherein the duration of administering compound luteolin is ranging between 5 to 10 days.

The teachings of Aoyama were set forth above.

The claims are drawn to a method of preventing and/or treating asthma in animals including humans comprising administering a therapeutically effective dose of luteolin; wherein the method shows no side effects; wherein the luteolin is administered orally; wherein the development of Early Airway Response and Late Airway Response are prevented; wherein levels of IFN-gamma, IL-5, IL-4 and IgE are modified to a normal level; wherein the duration of administering luteolin ranges between 5 to 10 days; and, wherein luteolin inhibits airway constriction and airway hyperactivity.

Aoyama teaches a method of preventing and/or treating asthma in animals comprising orally administering an effective amount of an alcoholic extract obtained from the *Perilla* seed, which comprises luteolin. Aoyama teaches the reference extract as a histamine release inhibitor, which is extremely good in action of inhibiting the release of histamine or the development of asthmatic features comprising Early Airway Response (EAR). In [0027], Aoyama teaches administering 0.5-3000 mg/day of the

reference extract or 0.3 to 15% weight percent or 0.01-10 weight percent to a patient in need thereof of treatment. Although Aoyama does not expressly teach that the reference method for prophylaxis and/or treatment of asthma in animals comprising administering luteolin encompasses modifying levels of IFN-gamma, IL-5, IL-4 and IgE to a normal level and inhibiting airway constriction and airway hyperactivity, the claimed functional effects are inherent to the method taught by Aoyama since the instantly claimed method is a one-step process of administering a therapeutic dose of luteolin to a patient in need of prevention and/or treatment of asthma, and since the ingredient, the amount of the ingredient, and the route of administration for the delivery of the ingredient are the same as instantly claimed by Applicant. Thus, a method of preventing and/or treating asthma in animals including humans using natural compound luteolin wherein level of IFN-gamma increases to normal level, wherein level of IL-5 decreases to normal level, wherein level of IL-4 decreases to normal level, wherein level of IgE decreases to normal a level, and wherein luteolin inhibits airway constriction and inhibits airway hyperactivity is inherent to the method taught by Aoyama. The cited reference discloses a method of preventing and/or treating asthma in animals comprising administering an effective amount of luteolin - - which appears to be identical to the presently claimed method, since the method taught by Aoyama prevents and/or treats asthma in animals in need thereof comprising the administration of therapeutic amounts of a composition comprising natural compound luteolin to provide prevention of the development of asthmatic features comprising Early Airway Response

and Late Airway Response; and, it is therefore considered to anticipate the claimed method.

In the alternative, even if the claimed method is not identical to the referenced extract with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced method is likely to inherently possess the same characteristics of the claimed method particularly in view of the similar characteristics which they have been shown to share. Thus, the claimed method would have been obvious to those of ordinary skill in the art within the meaning of USC 103. For instance, even if the claimed method of preventing and/or treating asthma in animals is not identical to the method taught by Aoyama with regard to preventing asthmatic features, *i.e.,* EAR and LAR; or modifying the levels of cellular constituents, *i.e.,* IFN-gamma, IL-5 and IL-4, of asthmatic patients or inhibiting asthmatic features; or the duration for the administration of luteolin, it would have been obvious to one of ordinary skill in the art to modify the method of preventing and/or treating asthma in animals taught by Aoyama by modifying the amounts of the reference composition to be administered and the duration of the amounts of the reference compositions to be administered to an animal in need thereof to provide the instantly claimed method of prophylaxis or treatment of asthma because at the time the invention was made it was known in the art that the administration of luteolin to animals had the claimed beneficial of altering the levels of IFN-gamma, IL-5, IL-4 and IgE thus provide an anti-asthmatic effect when administered to animals in need thereof, as evidenced by the teachings of Nagai, Park and Kimata. Firstly, Nagai

investigated the effects of an oriental-medical preparation comprising luteolin, *i.e.,* Sho-seiryu-to, and luteolin on bi-phase allergic reactions mediated by IgE. Nagai teaches administering Sho-seiryu-to once only or daily for a week significantly inhibited both immediate (Early Airway Response, EAR) and late phase reactions (Late Airway Response, LAR) in mice sensitized with anti-DNP monoclonal IgE antibodies and DNP antigen. For example, Nagai teaches, "In immediate-phase instances, Sho-seiryu-to is thought to have effected inhibition by antagonistic operations against mediators, such as histamines released from mast cells. In late-phase cases, it is thought to have inhibited by suppressing the production and operation of cytokines [such] as TNF-alpha." Similarly, Nagai teaches that administration of small quantities of luteolin demonstrated significant inhibitory effects on both immediate- and late-phase reaction, as well as, the release of histamine. Secondly, Park teaches luteolin obtained from *Kummerowia striata* as a dose-dependent inhibitor of Il-5. *See* Figure 1 on page 458. On page 458, Column 2, lines 16-19, Park further teaches, "An anti-Il-5 monoclonal antibody was reported to inhibit airway infiltration of eosinophils and decrease bronchial hypersensitivity in atopic animal models [citations omitted]." Thirdly, Kimata teaches treating human cultured mast cells sensitized with IgE with luteolin before challenge with antihuman IgE inhibited the release of histamine, leukotrienes, prostaglandin D2, and granulocyte macrophage-colony stimulating factor in a concentration-dependent manner. At the time the invention was made, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to modify the method of prophylaxis and/or treatment taught by Aoyama by adjusting the

therapeutic amounts of the reference compositions comprising luteolin to be administered and the duration of the amounts of the reference compositions to be administered to an animal in need thereof to provide the instantly claimed method of prophylaxis or treatment of asthma because at the time the invention was made it was known in the art that the administration of luteolin to animals had the claimed beneficial of altering the levels of the claim-designated components which are well-known mediators in the development of asthma (as readily admitted by Applicant on page 1, lines 23-28 of the present application) to provide the claimed method of prophylaxis and/or treatment asthma in animals because Aoyama teaches a method of treating asthma comprising administering therapeutic effective amounts of luteolin obtained from natural plant sources; and, Nagai, Park and Kimata teach that therapeutic effective amounts of luteolin have the beneficial effect of mediating the levels of cellular components known to effect the development of asthmatic features. Thus, it would have been a matter of judicious selection to one of ordinary skill in the art to modify the amounts and the duration of the amounts of luteolin administered to a patient in need thereof to provide a therapeutically effective dose of luteolin to provide an immunomodulatory result effect variable since at the time the invention was made it was known in the art of medicine that the claim-designated limitations were known biochemical and biological mechanisms affecting the development or reduction of asthmatic symptoms and since luteolin was known to exhibit therapeutic activity in the treatment thereof. The claimed invention is no more than the routine optimization of a

result effect variable. Thus, the claimed methods would have been obvious to those of ordinary skill in the art within the meaning of USC 103.

The United States Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether on not Applicants' method differs and, if so, to what extent, from that discussed in the references. Therefore, with the showing of the references, the burden of establishing non-obviousness by objective evidence is shifted to Applicants.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Accordingly, the claimed invention as a whole was at least *prima facie* obvious, if not anticipated by the reference, especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as anticipated by Peng et al. (U) or, in the alternative, under 35 U.S.C. 103(a) as obvious over Peng et al. (U) in view of Nagai (V), Park et al. (W), and Kimata et al. (X).

Applicant's claimed invention was set forth above.

The teachings of Peng were set forth above.

The claims are drawn to a method of preventing and/or treating asthma in animals including humans comprising administering a therapeutically effective dose of luteolin; wherein the method shows no side effects; wherein the luteolin is administered orally; wherein the development of Early Airway Response and Late Airway Response

are prevented; wherein levels of IFN-gamma, IL-5, IL-4 and IgE are modified to a normal level; wherein the duration of administering luteolin ranges between 5 to 10 days; and, wherein luteolin inhibits airway constriction and airway hyperactivity.

Peng teaches a method of treating asthma comprising orally administering an effective amount of luteolin to animals. Peng teaches administration of luteolin showed a marked antitussive effect due to a direct action of luteolin on the cough center in the brain stem and to desensitization of certain sensory sites on the trachea. Peng further teaches luteolin caused relaxation of tracheal smooth muscle following acetylcholine- or histamine-induced contractions both in an *in vitro* and *in vivo* system. Finally, Peng teaches oral administration of luteolin did not show adverse side effects. Although Peng does not expressly teach that the reference method for prophylaxis or treatment of asthma in animals comprising administering luteolin encompasses preventing the development of asthmatic features of EAR and LAR and modifying the levels of IFN-gamma, IL-5, IL-4 and IgE to a normal level, the claimed functional effects are inherent to the method taught by Peng since the instantly claimed method is a one-step process of administering a therapeutic dose of luteolin to a patient in need of prevention and/or treatment of asthma, and since the ingredient, the route of administration for the delivery of the ingredient, and the functional effect of luteolin to inhibit airway constriction and airway hyperactivity are the same as instantly claimed by Applicant. Thus, a method of preventing and/or treating asthma in animals including humans using natural compound luteolin wherein the level of IFN-gamma increases to normal level, wherein the level of IL-5 decreases to normal level, wherein the level of IL-4 decreases

to normal level and wherein the level of IgE decreases to normal a level are inherent to the method taught by Peng. The cited reference discloses a method of preventing and/or treating asthma in animals comprising administering an effective amount of luteolin - - which appears to be identical to the presently claimed methods, since the method taught by Peng prevents and/or treats asthma in animals in need thereof comprising the administration of therapeutic amounts of a composition comprising natural compound luteolin and inhibits airway constriction and airway hyperactivity; and, it is therefore considered to anticipate the claimed method.

In the alternative, even if the claimed method is not identical to the referenced extract with regard to some unidentified characteristics, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced method is likely to inherently possess the same characteristics of the claimed method particularly in view of the similar characteristics which they have been shown to share. Thus, the claimed method would have been obvious to those of ordinary skill in the art within the meaning of USC 103. For instance, even if the claimed method of preventing and/or treating asthma in animals is not identical to the method taught by Aoyama with regard to preventing asthmatic features, *i.e.,* EAR and LA; or modifying the levels of cellular constituents, *i.e.,* IFN-gamma, IL-5 and IL-4, of asthmatic patients or inhibiting asthmatic features; or the duration for the administration of luteolin, it would have been obvious to one of ordinary skill in the art to modify the method of preventing and/or treating asthma in animals taught by Peng by modifying the amounts of the reference composition to be administered and the duration of the

amounts of the reference compositions to be administered to an animal in need thereof to provide the instantly claimed method of prophylaxis or treatment of asthma because at the time the invention was made it was known in the art that the administration of luteolin to animals had the claimed beneficial of altering the levels of IFN-gamma, IL-5, IL-4 and IgE thus provide an anti-asthmatic effect when administered to animals in need thereof, as evidenced by the teachings of Nagai, Park and Kimata. Firstly, Nagai investigated the effects of an oriental-medical preparation comprising luteolin, *i.e.,* Sho-seiryu-to, and luteolin on bi-phase allergic reactions mediated by IgE. Nagai teaches administering Sho-seiryu-to once only or daily for a week significantly inhibited both immediate (Early Airway Response, EAR) and late phase reactions (Late Airway Response, LAR) in mice sensitized with anti-DNP monoclonal IgE antibodies and DNP antigen. For example, Nagai teaches, "In immediate-phase instances, Sho-seiryu-to is thought to have effected inhibition by antagonistic operations against mediators, such as histamines released from mast cells. In late-phase cases, it is thought to have inhibited by suppressing the production and operation of cytokines [such] as TNF-alpha." Similarly, Nagai teaches that administration of small quantities of luteolin demonstrated significant inhibitory effects on both immediate- and late-phase reaction, as well as, the release of histamine. Secondly, Park teaches luteolin obtained from *Kummerowia striata* as a dose-dependent inhibitor of Il-5. *See* Figure 1 on page 458. On page 458, Column 2, lines 16-19, Park further teaches, "An anti-Il-5 monoclonal antibody was reported to inhibit airway infiltration of eosinophils and decrease bronchial hypersensitivity in atopic animal models [citations omitted]." Thirdly, Kimata teaches

treating human cultured mast cells sensitized with IgE with luteolin before challenge with antihuman IgE inhibited the release of histamine, leukotrienes, prostaglandin D2, and granulocyte macrophage-colony stimulating factor in a concentration-dependent manner. At the time the invention was made, one of ordinary skill in the art would have been motivated and one would have had a reasonable expectation of success to modify the method of prophylaxis and/or treatment taught by Peng by adjusting the therapeutic amounts of the reference composition comprising luteolin and the duration of the amounts of the reference compositions administered to an animal in need thereof to provide the instantly claimed method of prophylaxis or treatment of asthma because at the time the invention was made it was known in the art of medicine that the administration of luteolin to animals had the claimed beneficial effect of altering the levels of the claim-designated components which are well-known mediators in the development of asthma (as readily admitted by Applicant on page 1, lines 23-28 of the present application) to provide the claimed method of prophylaxis and/or treatment asthma in animals because Peng teaches a method of treating asthma comprising administering therapeutic effective amounts of luteolin obtained from natural plant sources; and, Nagai, Park and Kimata teach that therapeutic effective amounts of luteolin have the beneficial effect of mediating the levels of cellular components known to effect the development of asthmatic features. Thus, it would have been a matter of judicious selection to one of ordinary skill in the art to modify the amounts and the duration of the amounts of luteolin administered to a patient in need thereof to provide a therapeutically effective dose of luteolin to provide an immunomodulatory result effect

variable since at the time the invention was made it was known in the art of medicine that the claim-designated limitations were known biochemical and biological mechanisms affecting the development or reduction of asthmatic symptoms and since luteolin was known to exhibit therapeutic activity in the treatment thereof. The claimed invention is no more than the routine optimization of a result effect variable. Thus, the claimed methods would have been obvious to those of ordinary skill in the art within the meaning of USC 103.

The United States Patent and Trademark Office is not equipped to conduct experimentation in order to determine whether on not Applicants' method differs and, if so, to what extent, from that discussed in the references. Therefore, with the showing of the references, the burden of establishing non-obviousness by objective evidence is shifted to Applicants.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Accordingly, the claimed invention as a whole was at least *prima facie* obvious, if not anticipated by the reference, especially in the absence of sufficient, clear, and convincing evidence to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michele C. Flood whose telephone number is (571) 272-0964. The examiner can normally be reached on 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on (571) 272-0961. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MICHELE FLOOD
PATENT EXAMINER

MCF
June 14, 2004